Claims

What is claimed is:

1   1.   A method of providing a location-based service, comprising:

2   creating a database of broadcast radio stations;

3   maintaining, for each broadcast radio station, a schedule of program

4   information; and

5   maintaining for each broadcast radio station, geographic boundary

6   information that defines a boundary within which a pre-determined radiated energy

7   pattern is found.

1   2.   The method of Claim 1, wherein the program information includes a program

2   classification code.

1   3.   The method of Claim 1, further comprising,

2   receiving, from a location-aware product, information representative of the

3   geographic position of the location-aware product to within a pre-determined

4   accuracy;

5   receiving from the location-aware product one or more program classification

6   codes; and

7   communicating one or more station tuning codes to the location-aware

8   product;

9   wherein the tuning codes are associated with broadcast radio stations.

1   4.   The method of Claim 3, further comprising receiving sensitivity data from the

2   location-aware product.

1   5.   The method of Claim 3, further comprising receiving selectivity data from the

2   location-aware product.

1   6.   The method of Claim 3, further comprising receiving model information from

2   the location-aware product.

1   7.   The method of Claim 3, further comprising determining which one or more

2   station tuning codes to communicate to the location-aware product; and wherein

3   determining is based, at least in part, on one or more sensitivity characteristics of the

4   location-aware product.

1   8.   The method of Claim 3, further comprising determining which one or more

2   station tuning codes to communicate to the location-aware product; and wherein

3   determining is based, at least in part, on one or more selectivity characteristics of the

4   location-aware product.

1   9.   The method of Claim 6, further comprising determining which one or more

2   station tuning codes to communicate to the location-aware product; and wherein

3   determining is based, at least in part, on one or more sensitivity or selectivity

4   characteristics of the location-aware product, the one or more sensitivity or

5   selectivity characteristics being derived from the model information.

1   10.   The method of Claim 9, wherein the location-based services provider derives

2   the sensitivity or selectivity information from the model information by accessing a

3   database.

1   11.   The method of Claim 6, further comprising determining the sensitivity and

2   selectivity characteristics of the location-aware product based on the received model

3   information.

1   12.   The method of Claim 3, further comprising determining the time of day at the

2   geographic position of the location-aware product; and determining which one or

3   more station tuning codes to communicate to the location-aware product based, at

4   least in part, on the geographic position and the time of day at the geographic

5   position.

1   13.   A method of operating a location-aware mobile radio, comprising:

2   a) providing a frequency assignment to each of a plurality of user input

3   interfaces, each assignment based, at least in part, on a first geographical zone;

4   b) determining whether a present location of the location-aware mobile radio

5   is within a second geographical zone;

6   c) providing, if the determination in (b) is affirmative, a second frequency

7   assignment to at least one of the plurality of user input interfaces.

1   14.   The method of Claim 14, wherein the user input interface comprises a button.

1   15.   The method of Claim 13, wherein the user input interface comprises a switch.

1   16.   The method of Claim 13, wherein the second geographical zone overlaps the

2   first geographical zone.

1   17.   A location-aware radio, comprising:

2   a radio adapted to receive and demodulate signals from a plurality of

3   broadcast radio stations, and to produce at least an audio output;

4   a location information resource disposed in a known spatial relationship to the

5   radio; and

6   a transceiver, coupled to the location-information resource, and coupled to

7   the radio, the transceiver adapted to transmit at least an identification code and

8   location information, and further adapted to receive tuning information. and

9   communicate the tuning information to the radio.

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1 18. The location-aware mobile radio of Claim 17, wherein the location information

2 resource comprises a GPS module.

1 19. The location-aware mobile radio of Claim 18, further comprising a processor

2 coupled to the GPS module, the radio, and the transceiver; and a memory coupled

3 to at least the processor and the radio.

1 20. The location-aware mobile radio of Claim 19, further comprising an interface

2 adapted to physically and electrically couple a cellular telephone to at least the

3 processor.

1 21. A method of creating a database, comprising:

2   obtaining, and retrievably recording in a computer readable format,

3 information regarding a plurality of broadcast stations, including a broadcast station

4 call sign and a carrier frequency, associated with each of the plurality of broadcast

5 stations;

6   obtaining, and retrievably recording in a computer readable format, one or

7 more field strength boundaries for each broadcast station in a second plurality of

8 broadcast stations; and

9   obtaining, and retrievably recording in a computer readable format,

10 programming information for each broadcast station in third plurality of broadcast

11 stations;

12   wherein the second plurality and the third plurality of broadcast stations are

13   each at least a subset of the first plurality of broadcast stations.

1   22.   The method of Claim 21, wherein each of the plurality of broadcast stations

2   comprises a transmitter operable to transmit a radio signal having a field strength

3   that varies with distance from the transmitter, and each field strength boundary

4   defines a region within which the field strength of the radio signal, with which the

5   boundary is associated, is nominally above a predetermined threshold.

1   23.   The method of Claim 22, wherein the predetermined threshold is determined

2   such that the radio signal may be adequately received.

1   24.   The method of Claim 22, wherein the predetermined threshold is determined

2   such that the radio signal may be received by a location-aware radio having

3   predetermined sensitivity and selectivity characteristics.

1   25.   The method of Claim 21, wherein a field strength boundary includes temporal

2   limitations.

1   26.   The method of Claim 22, wherein the programming information comprises

2   one or more program schedules.

1   27.   The method of Claim 22, wherein the programming information comprises

2   one or more station formats.

1   28.   The method of Claim 22, wherein the programming information comprises

2   one or more syndicated show schedules.

1   29.   The method of Claim 22, wherein the database may be accessed so as to

2   retrieve at least broadcast station carrier frequencies based, at least in part, on the

3   logical union of a program type and radio signal field strength at a particular set of

4   geographical coordinates.